Oregon LNG Project
Warrenton, Oregon

Presentation to

California Energy Commission

July 26, 2007

Oregon LNG Team

- LNG Development Company - Development
- Leucadia National Corporation - Funding
- King & Spalding – FERC Counsel
- CH2MHill – Environmental Consultant
- CH2MHill – Pipeline and Marine Engineering
- CH-IV – LNG Engineering
- Universal Field Services – Land Services
- HPA Halcrow – WSA Consultant

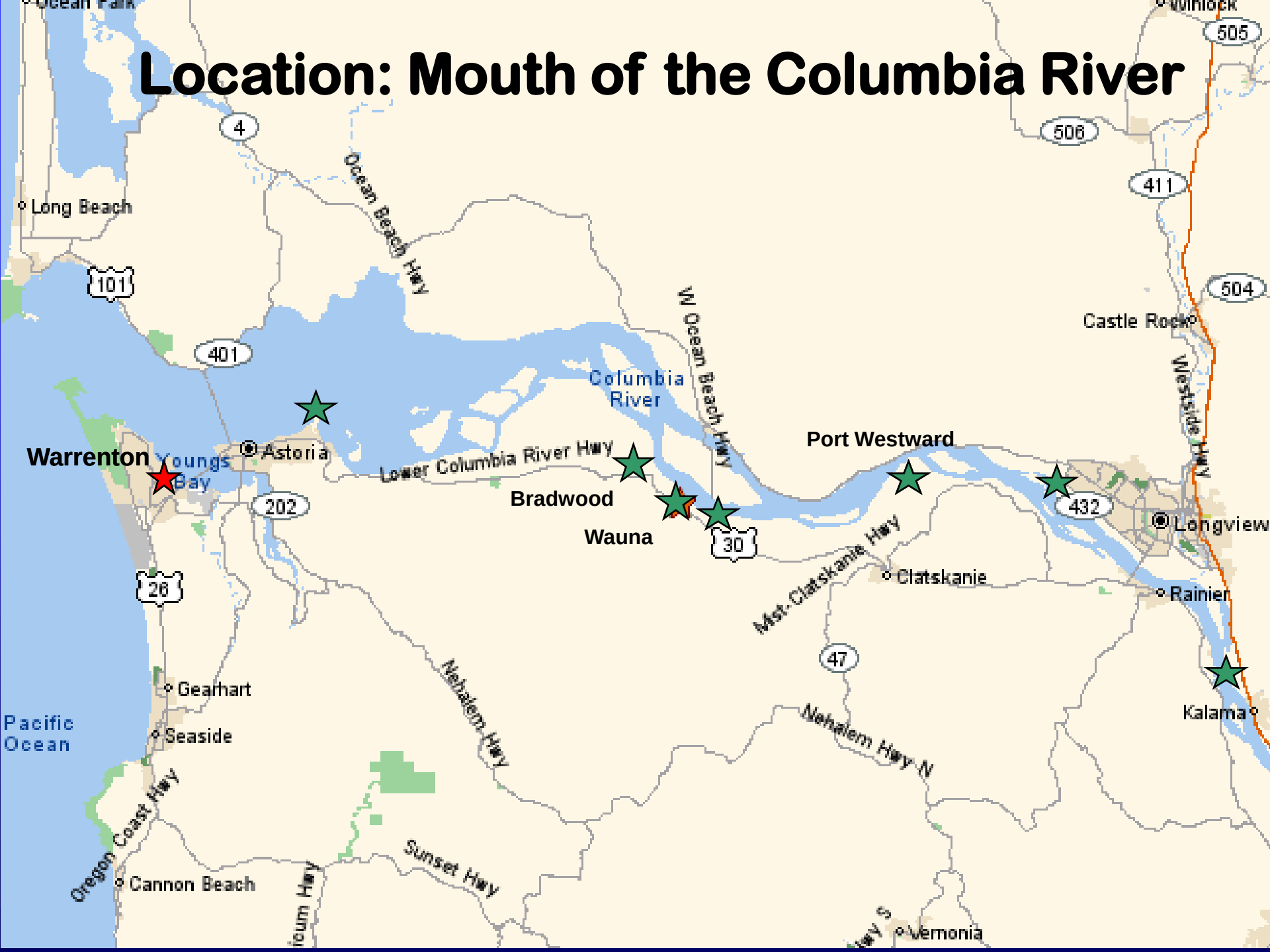
Project Summary

- Capacity: 1 BCF/day, Peak 1.5 BCF/day
- Tanks: 3 x 160,000 m3 Full Containment,
- Heat Source: Ambient Air + Boilers
- Channel Depth: 43 ft. Existing (+8 ft. Tidal Bulge)
- Channel Width: 600 ft. Existing
- Berth: 260,000+ m3 Vessels
- 573,000 m3 Dredging Req'd. for Turning Basin
- 117.25 Mile to Oregon Pipeline Hub at Molalla, Oregon
- Connection to Williams NW and Palomar/GTN Pipelines
- 65-Year Site Lease in Place for 96-Acre Site

Pipeline Engineering Details

- 117.25 Miles from Warrenton to Molalla
- 36 Inch Outer Diameter – Welded Steel
- Wall Thickness 0.57” - 0.75” – Coated
- River Crossings: Horizontal Directional Drilling
- 48 Miles in Existing Power/Pipeline Corridors
- Mostly Avoids Congested Areas

Location: Mouth of the Columbia River



PNW Pipelines

Proposed Oregon LNG Project

History – Site Selection

Primary Siting Criteria:

- **Minimal Navigation Security Risk**
- **Minimal Environmental Impact**
- **Suitable Zoning in Place or Available**
- **Local Support**

History – Site Selection

Secondary Siting Criteria:

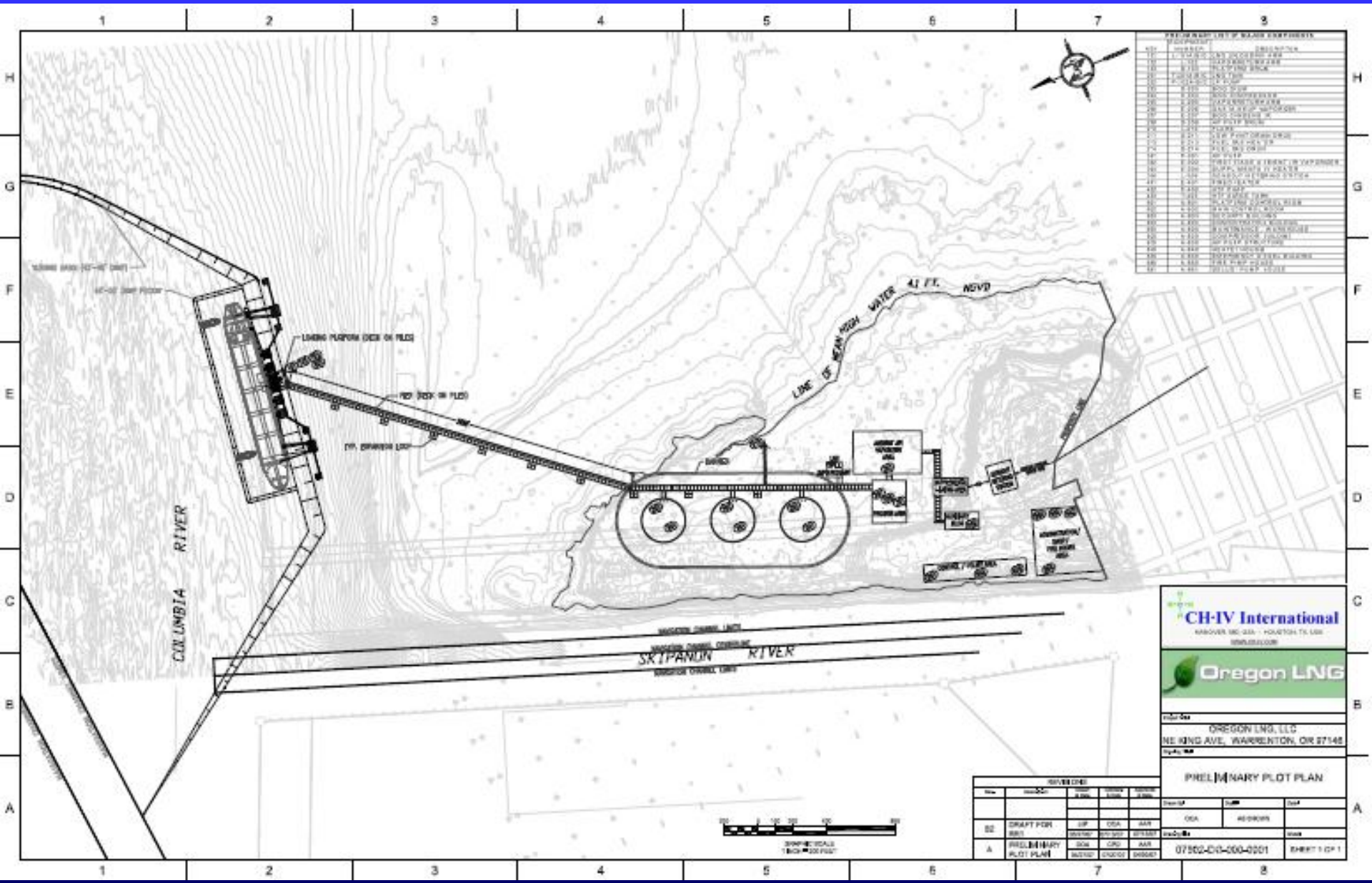
- **Berth Distance to People: (1600 m)**
- **Berth Distance to Channel: (500 m)**
- **Good Access (Channel Depth, Width)**
- **Minimal Dredging Requirements**
- **Minimal Visual Impacts**

Why at the Mouth of the River?

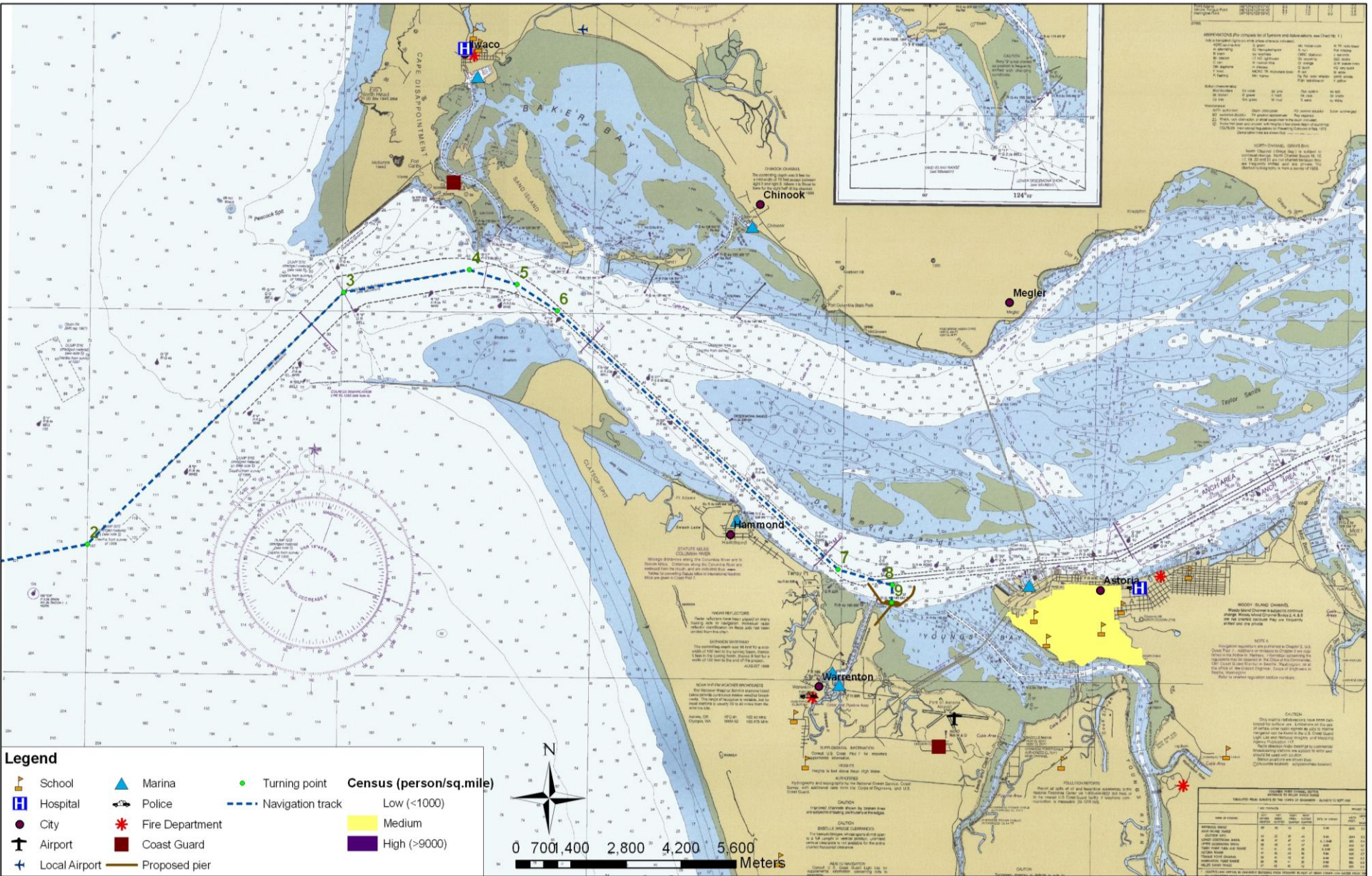
Astoria Waterfront

Project Site - 96 Acres

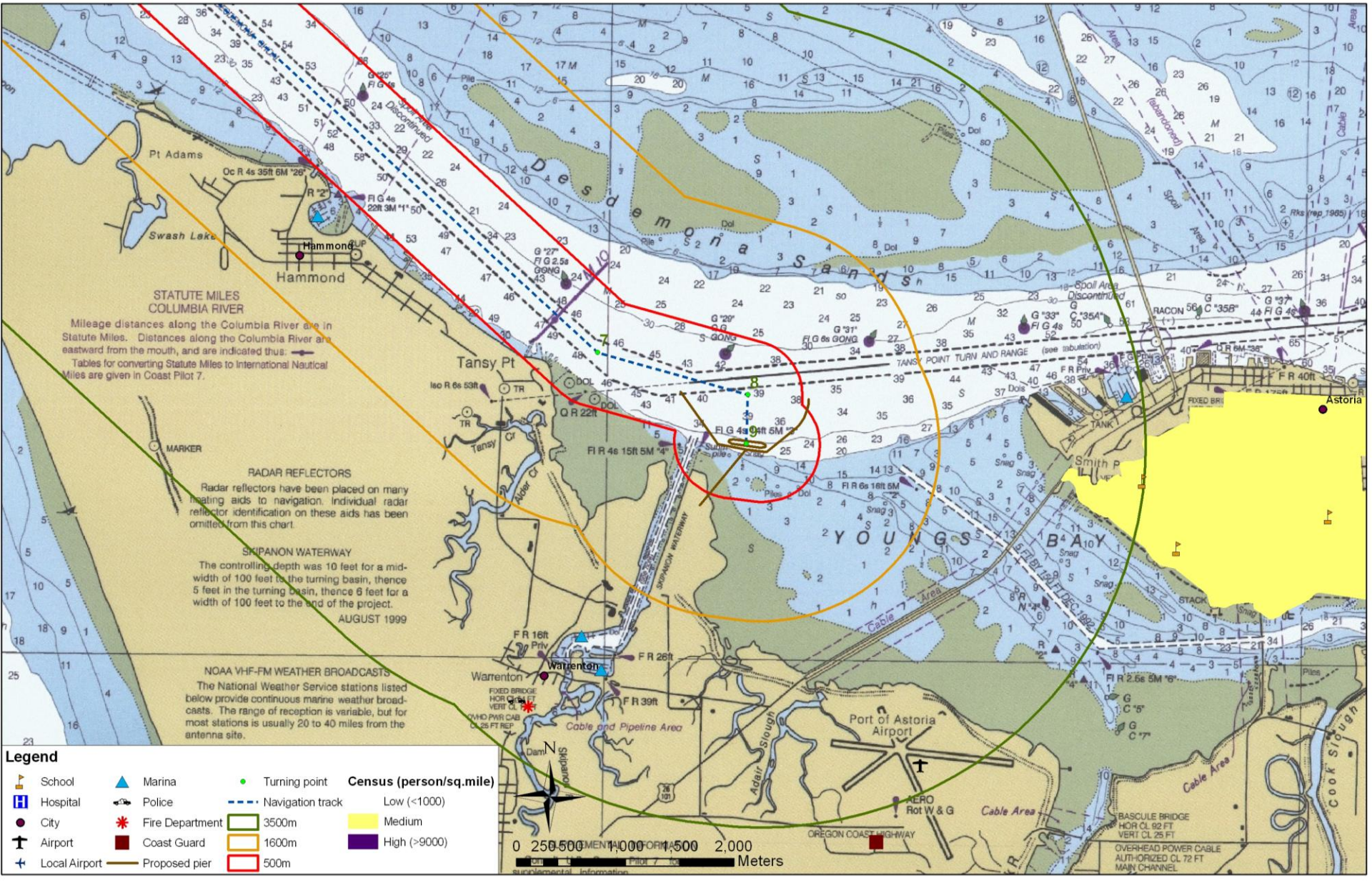
Proposed Terminal Layout



Tanker Route to Skipanon Peninsula



Tanker Route; 500, 1600, and 3500 Meter Zones



Oregon LNG – Minimal Impact on the River

- Mouth of River – Short Transit Time
- Tankers Will Be Supported By Tugs
- U.S. Coast Guard Escort – Like Cruise Ships
- Security Zones Established by USCG
- Transit at Night During Buoy 10 Season

History: Permitting Strategy

- **Focus: Maintain Local/State/Federal Consensus**
- **Guiding Principles:**
  - **Keep it Local and Low-Key**
  - **Respect Oregon Tradition for Process**
  - **Work with State Agencies**
- **First: Local Land Use Process**
- **Next: Oregon State Process As Required**
- **Then: FERC/USCG Permitting Process**

History - Local Permitting Process

- **Oregon Local Land Use Process**
  - Very Public, Political Process (Often Brutal)
  - Test of Community Relations
  - Project Support Tested Through Local Elections

- **Required Processes:**
  - Annexation – Single Jurisdiction (Complete)
  - Code Interpretation (Complete)
  - Re-zoning (Complete, 3rd Vote on 1/24/06)
  - Land Use Board Of Appeals Process Complete 6/06
  - Oregon Court of Appeals Process Complete 10/06
  - No Appeal to Oregon Supreme Court

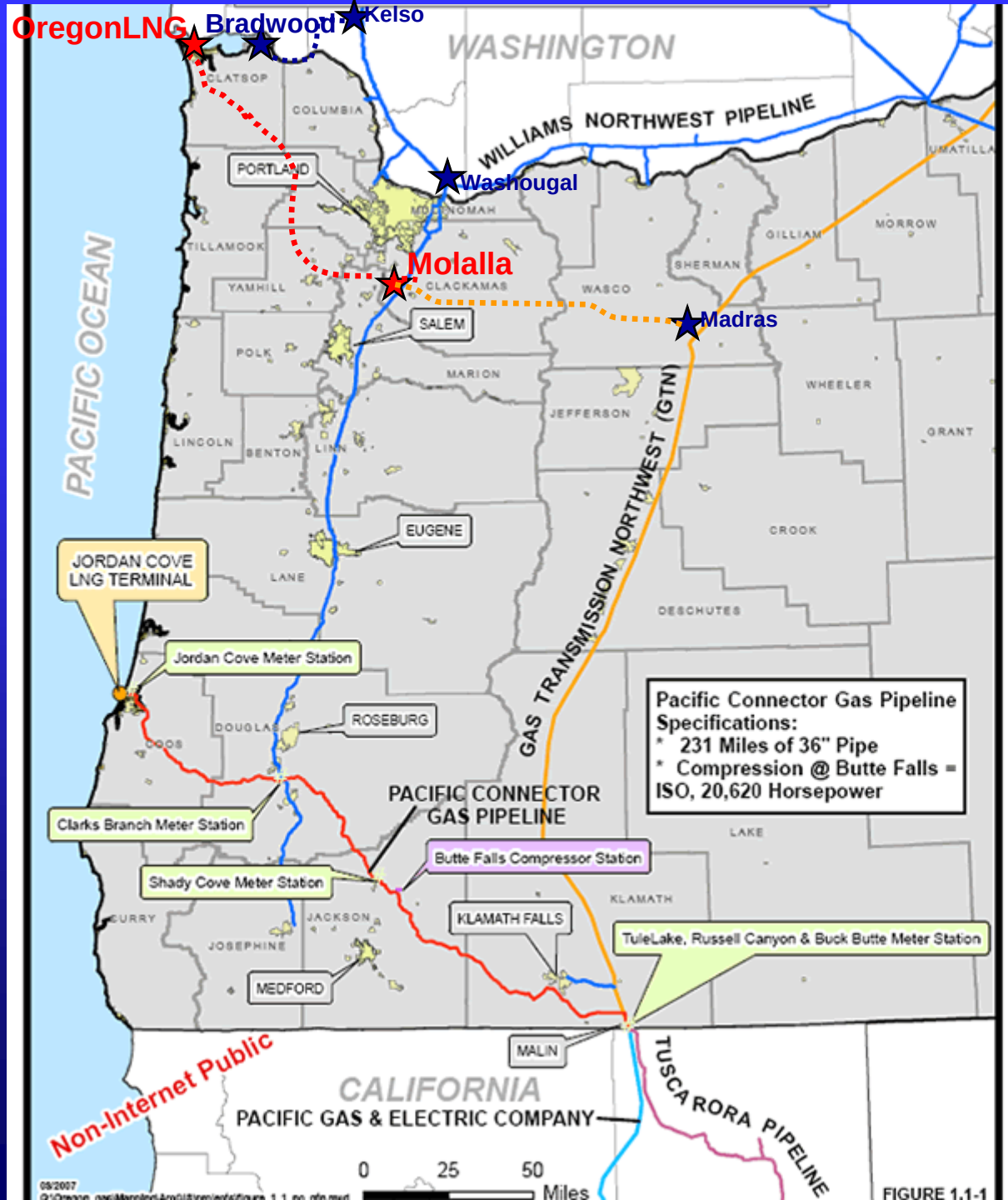
Remaining Project Issues

- **FERC License – Project Meets All Standards**
- **USCG Approval – Project Meets All Standards**
- **CZMA Conformance – Based on Correct Zoning**
- **Air Contaminant Discharge Permit – Minor Source**
- **401 Permit – Man Made Site - Minor Impacts**
- **Are There Too Many Projects in Oregon??**

<u>Conclusion:</u>

- **The Pipelines to CA WILL Be Kept Full!**

Proposed LNG Receiving Terminals and Connecting Pipelines in Oregon



View from Astoria West Hills